VIII. ON A NEW SPECIES OF *THALASSEMA* FROM THE GULF OF MANAAR WITH NOTES ON THURSTON'S SPECIES *T. FORMULOSUM.*

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Thurston in his account of the Fauna of the Gulf of Manaar [1] records the occurrence of a species of the genus *Thalassema*, Lamarck,[2] as the only representative of the Gephyrea Chaetifera in this region. Regarding the exact locality from which the specimens were obtained, he adds the following note—"Of the four species dredged off Raméshwaram Island, only *Dendrostoma signifer* was abundant."

On the authority of Dr. Selenka, who identified the collection of Gephyrea, the name of the species in the Bulletin is given as *Thalassema formulosum*. Curiously enough, though the authorities for the other names are cited in all cases, the name of the author of *T. formulosum* is omitted. Selenka, so far as I have been able to ascertain, did not describe any species as *T. formulosum*, nor has any other author described one of this name. Probably the species was *T. formosulum*, Lampert,[3] and the name in Thurston's work is only a *lapsus calami*, or Selenka meant to describe a new species under this name, though he never did so. In his revision of the genus *Thalassema*,[4] Shipley does not make any reference to Thurston's record and was probably not acquainted with it. According to him *T. formosulum* had been obtained from Cavitte near Manila and Shanghai. Sluiter[5] has since recorded the same species from Labuan Tring and Sapeh-Bai, Sumbawa, from the material collected by the Siboga Expedition in the Dutch East Indies. If my interpretation regarding the name of the species recorded by Thurston is correct, then the species *T. formosulum* has a very wide range of distribution in the Pacific and the Indian Ocean. No specimens of the genus *Thalassema* were obtained during Herdman's investigations[6] of the Fauna of

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[1] *Bull. Madras Mus.*, III, p. 116 (1895).

[2] In my previous papers I followed Annandale and Kemp (*Mem. Ind. Mus.*, V, p. 58 and *Rec. Ind. Mus.* XVI, pp. 399-402) in assigning the authorship of *Thalassema* to Gaertner; this, however, as Shipley had pointed out, was not quite correct, as the real author is Lamarck.

[3] *Zeitschr. Wiss. Zool.*, XXXIX, p. 339 (1883).

[4] Willey's *Zool. Results*, p. 348 (Cambridge, 1889).

[5] *Siboga-Expeditie*, XXV, p. 48 (1902).

[6] *Rept. Ceylon Pearl Fisheries and Marine Biology*, pt. 1, p. 169 (1903).

the Pearl-banks round Ceylon. During the past few years the Madras Fisheries Department has been making extensive collections of the marine animals occurring on the chank-beds at Tuticorin, in the Gulf of Manaar, but no specimens of Echiuroids had ever been obtained. Recently (November, 1918) while on deputation to the Madras Fisheries for a short time, I was fortunate enough in obtaining two specimens of *Thalassema*. The specimens were brought up from the bottom by a chank-diver, who found them crawling round the burrows of the chank—*Turbinella pirum*, Lam., about five miles from the mainland. The bottom of the sea in these parts consists of fine sand mixed with some mud and large quantities of dead shells, coral pieces and tubes of Polychaete worms.

The specimens belong to a very interesting new species, which I propose to describe as *Thalassema hornelli*, associating it with the name of Mr. J. Hornell, F.L.S., Director of Fisheries, Madras, to whom I am greatly obliged for making my short stay in the Madras Presidency both interesting and useful.

Thalassema hornelli, sp. nov.

The body in this species is elongate, cylindrical; in one of the specimens, owing to contraction at the time of preservation, the posterior end appears of a much less diameter than it actually is in the living specimens. The living individuals showed great powers of expansion and contraction; in spirit the larger of the two specimens is 8·2 cm. long, while its maximum breadth is 2·1 cm. The proboscis is very short compared to the length of the body, and measures 1·1 cm. in length. The ventral margins of the proboscis are not united with one another even at its base. The whole of the surface of the body is covered over by minute irregularly arranged papillae; the papillae near the two ends of the body are larger than those in the middle, while the proboscis papillae are very minute.

Two rather small hooks of a pale yellow colour are present in the normal situation on the ventral surface. The musculature of the body is broken up into nineteen bundles in the middle of the body, but higher up and lower down the muscle-bands become more or less contiguous, and it is not possible to count the bundles. There are five pairs of segmental organs with large funnels; the lateral margins of the funnels are produced into very long spirally coiled lobes. Of the five pairs of segmental organs the three anterior pairs are rather poorly developed structures, and are situated in front of the insertion of the ventral hooks, while the two posterior pairs are very well-developed with elongated, ovoid vesicles and very long spiral lobes for the funnels. The anal vesicles are well-developed tubular structures reaching to a little more than half the length of the body; each of the vesicles has three rows of rather large funnels extending over a little more than half the length of the vesicles. The body-wall is very thick at the two ends of the body but much thinner in the middle.

The living specimens were of a pale pinkish colour due largely to the pinkish coelomic fluid which could be seen shining through. The proboscis and the two ends of the body were light yellow with a tinge of green here and there. Specimens preserved in spirit after fixation in 10% Formalin are of a deep yellowish colour.

The two type-specimens, since the description was written, have unfortunately been lost and are not available for future reference. I have, however, requested Mr. R. H. Whitehouse, Marine Biologist of the Madras Fisheries, to kindly procure some more specimens from the original locality.

Relationships:—The species described in the previous pages differs from the other known species of the genus in having five pairs of segmental organs and the musculature divided into nineteen bundles. It shows a distinct advance on the condition described by me in *T. kempi*[1] in having five pairs of segmental organs, even though the number of muscle-bands has become reduced to nineteen.

Remarks:—As has been noted above, the animals showed great powers of extension and contraction of the body. One of the specimens also showed the phenomenon of the autotomy of the proboscis, as it threw off the proboscis on being taken out of sea water. This latter peculiarity has been observed in the case of other marine species, but the group of the essentially brackish water Asiatic species (*loc. cit.*) of the genus differs very markedly in this respect from the marine species.

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[1] *Mem. As. Soc. Bengal*, VI, pp. 321-338, pl. xi (1919).